

REMARKS

Claims 1-66 are pending in the application.

Claims 1-66 have been rejected.

Claims 1, 18, 35, 46 and 54 have been amended.

Unless otherwise specified in the below discussion, Applicants have amended the above-referenced claims in order to provide clarity or to correct informalities in the claims. Applicants further submit that, unless discussed below, these amendments are not intended to narrow the scope of the claims. By these amendments, Applicants do not concede that the cited art is prior to any invention now or previously claimed. Applicants further reserve the right to pursue the original versions of the claims in the future, for example, in a continuing application.

Rejection of Claims Under 35 U.S.C. § 102

Claims 1-66 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Publication No. 2003/0163593 naming Knightly as inventor (“Knightly”). Applicants respectfully traverse this rejection.

Claims 1, 46 and 54:

Independent Claims 1, 46 and 54, as amended, each contain limitations of substantially the following form:

receiving information indicating a need to change an amount of data being transmitted through a first media access control (MAC) device to a client of the first MAC device, wherein

the information is received from the client when the client determines that the client is receiving data at a rate exceeding a set threshold;
forming a message including an indication to a second MAC device to change a rate at which the second MAC device transmits data, wherein
said forming the message uses the information indicating the need to change the amount of data being transmitted to the client; and
transmitting the message to the second MAC device over a network.

See, e.g., Claim 1 (amended). Applicants respectfully submit that the cited sections of Knightly fail to provide disclosure of all of these limitations.

As an initial matter, Applicants submit that support for the amendments to the limitations of the above-listed independent claims can be found at least in ¶ [0042] of the original Application. Applicants therefore submit that no new matter has been added by these amendments.

As purported support for the unamended version of the “receiving” limitation, the Office Action cites to the following section of Knightly:

Next, RPR nodes have measurement modules (byte counters) to measure demanded and/or serviced station and transit traffic. These measurements are used by the fairness algorithm to compute a feedback control signal to throttle upstream nodes to the desired rates. Nodes that receive a control message use the information in the message, perhaps together with local information, to set the bandwidths for the rate controllers 304 (see FIG. 3).

Knightly, ¶ [0047]; *see* Office Action, p.2 (apparently citing to Knightly, ¶ [0047] for both the “receiving” and “forming” limitations).

Applicants respectfully submit that the cited section provides no disclosure, either explicit or implicit, of an RPR node capable of receiving information indicating a need to change an amount of data being transmitted through a first MAC device to a client of the first MAC device, as claimed. As an initial matter, Knightly Figure 3, to which the cited section refers, provides no illustration of a MAC client and no indication of information being received to change an amount of data being transmitted to a MAC client. For

example, Knightly's traffic monitor (308) is configured to only receive signals from "the rate controllers 304, the transit buffers 312, and the scheduler 310 before providing any output to the fair bandwidth allocator 306." Knightly, ¶[0046]. Further, the "measurement modules" disclosed in the above-quoted section, have no explicit or implicit relation to a client of a MAC device, nor are those "measurement modules" disclosed to indicate a need to change an amount of data being transmitted through a first MAC device to a client of the first MAC device. Instead, these measurement modules are merely disclosed to be "byte counters."

The cited section of Knightly further fails to provide disclosure of "receiving information ... wherein the information is received from the client when the client determines that the client is receiving data at a rate exceeding a set threshold," as provided in the amended claims. Knightly's illustrated and discussed "byte counters" are shown to be part of the RPR node itself and not part of a MAC client. In fact, there is no disclosure in the cited section that any data rate-related information is received from a MAC client. Indeed, as stated above, there is no illustration at all of a MAC client coupled to Knightly's purported RPR node.

Applicants further submit that the cited section fails to provide disclosure of the "forming a message" limitation, as suggested by the Office Action. The above-quoted section provides that the "measurement modules (byte counters)" provide measurements "used by the fairness algorithm to compute a feedback control signal to throttle upstream nodes to the desired rates." Knightly, ¶[0047]. Because the above-quoted section provides no disclosure of the receiving of "information indicating a need to change an amount of data being transmitted to the client," as discussed above, the cited section

cannot provide for the claimed “forming a message” wherein the forming the message uses the received information.

In order to further support its contention that Knightly discloses the “forming a message” limitation, the Office Action cites to the following section of Knightly:

RIAS Fairness has two key components. The first component defines the level of traffic granularity for fairness determination at a link as an ingress-aggregated (IA) flow, i.e., the aggregate of all flows originating from a given ingress node, but not necessarily destined to a single egress node. The targeted service model of packet rings justifies this: to provide fair and/or guaranteed bandwidth to the networks and backbones that it interconnects. Thus, our reference model ensures that an ingress node's traffic receives an equal share of bandwidth on each link relative to other ingress nodes' traffic on that link. The second component of RIAS fairness ensures maximal spatial reuse subject to this first constraint. That is, bandwidth can be reclaimed by IA flows (that is, clients) when it is unused either due to lack of demand or in cases of sufficient demand in which flows are bottlenecked elsewhere.

Knightly, ¶ [0073]; *see also* Office Action, p.2 (“where the change based on the fairness message alters the bandwidth reserved for clients.”). Applicants respectfully submit that the Office Action’s use of this section mischaracterizes the intent of the cited section.

The claim limitation provides “wherein said forming the message uses the information indicating the need to change the amount of data being transmitted to the client.” Applicants submit that the cited section of Knightly provides no disclosure of such a message being used. Instead, Knightly provides for traffic granularity being defined as an aggregate of all traffic originating from a given ingress node but not necessarily destined to a single egress node. *Id.* An egress node may be a MAC device with a client having data transmitted to the client from the MAC device. So, as an initial matter, any regulation disclosed as occurring with the ingress-aggregated flow is not directed toward a particular egress client.

Further, the cited section provides that a goal is to “ensure an ingress node’s traffic receives an equal share of bandwidth on each link relative to other ingress nodes’ traffic on that link.” *Id.* This goal, as stated in Knightly, is thus related to bandwidth allocation on the link as it pertains to all ingress nodes. There is no indication of responsiveness to data being transmitted to a particular client on a particular egress node, as claimed (e.g., “data being transmitted through a MAC device to a client of the MAC device.”).

The cited section further discloses a second component purportedly providing for “maximal spatial reuse” subject to the first constraint. This is described as bandwidth being “reclaimed by IA [ingress aggregated] flows (that is, clients) when it is unused either due to lack of demand or in cases of sufficient demand in which flows are bottlenecked elsewhere.” *Id.* Thus, the ingress clients can purportedly reclaim link bandwidth when such bandwidth is available. This is not disclosure of a receiving node (coupled to an egress client) forming a message including an indication to a second MAC device to change a rate at which the second MAC device transmits data using the information indicating the need to change the amount of data being transmitted to the client, as claimed. Instead, the cited section of Knightly merely relates to an aggregated ingress flow being adjusted in order to share link bandwidth.

For at least these reasons, Applicants submit that the cited sections of Knightly fail to provide disclosure of all the limitations of independent Claims 1, 46 and 54, as amended, and all claims depending therefrom, and that these claims are in condition for allowance. Applicants therefore respectfully request the Examiner’s reconsideration and withdrawal of the rejections to these claims and an indication of the allowability of same.

Claims 18 and 35:

Independent Claims 18 and 35, as amended, each contain limitations of substantially the following form:

a first media access control (MAC) device operable to be coupled to a network, the first MAC device including control logic configured to prepare a message for transmission on the network including an indication to change a rate at which another MAC device transmits data; and

a MAC client coupled to the first MAC device, wherein the MAC client comprises

a buffer for storing data transmitted to the MAC client and

buffer control circuitry configured to provide information about an amount of data stored in the buffer, wherein

the control logic is responsive to the information about the amount of data stored in the buffer to prepare the message.

See, e.g., Claim 18 (amended). Applicants respectfully submit that Knightly fails to provide disclosure of all of these claim limitations.

Claims 18 and 35 have been amended to clarify that the MAC client comprises the claimed buffer and buffer control circuitry that provides the information about the amount of data stored in the client's buffer. Support for these amendments can be found at ¶ [0042] of the originally filed Application, and therefore no new matter has been added to these claims. Applicants submit that for reasons similar to those discussed above, these claims are allowable as claimed.

Specifically, the Office Action cites to ¶¶ [0047]-[0048] of Knightly as purported disclosure of these claim limitations. *See* Office Action, p.3. But, as discussed above, ¶ [0047] fails to provide disclosure of a MAC device being responsive to bandwidth limitations signaled by a client.

The Office Action cites to Knightly, ¶ [0048] for purportedly providing disclosure of "buffer control circuitry configured to provide information about an amount of data

stored in a buffer.” Office Action, p.3. But that section of Knightly only relates to the transit buffers (either a Primary Transit Queue or a Secondary Transit Queue) found on the disclosed RPR node (suggested by the Office Action to correspond to the claimed MAC device). The claims, as amended, clarify that the claimed buffer and buffer control circuitry is found in the MAC client and not the MAC device. Knightly does not contemplate such a configuration for the disclosed queues, as the disclosed transit queues are only found on the device passing the transit traffic from the ring network.

For at least these reasons, Applicants submit that the cited sections of Knightly fail to provide disclosure of all the limitations of independent Claims 18 and 35, and all claims depending therefrom, and that these claims are in condition for allowance. Applicants therefore respectfully request the Examiner’s reconsideration and withdrawal of the rejections to these claims and an indication of the allowability of same.

Claims 6, 26, 39, 49 and 57:

Dependent Claims 6, 26, 39, 49 and 57 each contain substantially the following limitations:

determining an extent to which a data buffer associated with the client of the first MAC device contains data; and

preparing the information indicating the need to change the amount of data being transmitted through the first MAC device to the client of the first MAC device based on the extent to which the data buffer associated with the client of the first MAC device contains data.

See, e.g., Claim 6. Applicants respectfully submit that the cited sections of Knightly fail to provide disclosure of these limitations.

The Office Action cites to Knightly, ¶¶ [0048] as purported disclosure of the “determining an extent to which a data buffer associated with the client of the first MAC

device contains data” limitation. But this section of Knightly only provides for two different types of queues (purportedly corresponding to the claimed data buffer): (a) a single-queue transit mode with a Primary Transit Queue for holding transit data, or (b) a dual-queue transit mode with a Primary Transit Queue (PTQ) and a Secondary Transit Queue (STQ) for high and low priority transit data. *Id.* The PTQ and the STQ are not disclosed to be related to a client of the MAC device. Instead, Knightly discloses that these queues purportedly either hold all transit data (in the case of the single-queue transit mode) or prioritized transit data (in the case of the dual-queue transit mode). There are no other queues disclosed in the cited section of Knightly, and especially no queues that are related to corresponding destination MAC devices.

Similarly, Knightly ¶ [0113], cited as purported disclosure of the “preparing” limitation, pertains to purported spatial reuse of bandwidth on links between nodes on an RPR ring. *See* Knightly, ¶¶ [0111]-[0113]. This section does not provide disclosure of any analysis of whether a MAC client data buffer contains data. In fact, there is no disclosure at all of a MAC client data buffer in the cited section (or, indeed, of any buffer).

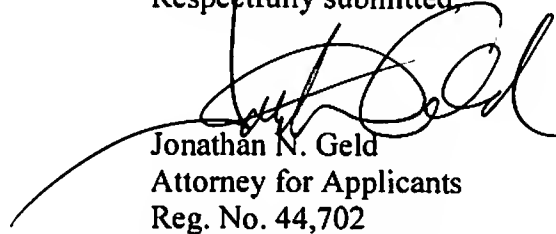
For at least these reasons and those discussed above with regard to the independent claims, Applicants submit that the cited sections of Knightly fail to provide disclosure of all the limitations of dependent Claims 6, 26, 39, 49 and 57, and all claims depending therefrom, and that these claims are in condition for allowance. Applicants therefore respectfully request the Examiner’s reconsideration and withdrawal of the rejections to these claims and an indication of the allowability of same.

CONCLUSION

In view of the amendments and remarks set forth herein, the application and the claims therein are believed to be in condition for allowance without any further examination and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5090.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicant hereby petitions for such extensions. Applicant also hereby authorizes that any fees due for such extensions or any other fee associated with this submission, as specified in 37 C.F.R. § 1.16 or § 1.17, be charged to deposit account 502306.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Jonathan N. Geld', is written over the typed name and contact information.

Jonathan N. Geld
Attorney for Applicants
Reg. No. 44,702
(512) 439-5080 [Phone]
(512) 439-5099 [Fax]